CIS 1630

Division: Career and Technical Education
Department: Information Technology
Course: CIS 1630
Title: Wireless Networking
Catalog Description:

This course will introduce students to the fundamentals of a wireless network. Students will become familiar with wireless network planning, designing, installation, and configuration. Students will become familiar with wireless standards and concepts covering security and troubleshooting.

General Education Requirements: N/A
Semesters Offered: TBA
Credit/Time Requirement: Credit: 3; Lecture: 3; Lab: 1
Clock/Hour Requirements: 60
Offered for Non-Credit: Yes
Prerequisites: CIS 1121, CIS 1122, and CIS 1140

Corequisites: N/A

Justification:

The practice of wireless networking offers network engineers vendor neutral exposure to a growing alternative in a wired network environment. An increasing portion of the networking world is turning wireless or is adding a wireless component to existing networks. Technicians preparing to enter the workplace should have exposure to wireless networking concepts to keep up with the demand for these networks. Students who choose to work in the IT field will benefit from a solid understanding of wireless networking and will be able to more precisely manage networks with wireless components. This course prepares students for job readiness at graduation and/or transfer to some advanced training institutions. This course has been recommended by the program advisory committee.

Student Learning Outcomes:

Through successful completion of this course, students will be able to:

- identify and manage wireless LAN devices and standards
- understand and explain physical and media access control aspects of wireless networks
- identify and describe wireless network security issues
- describe and perform a proper wireless network installation
- configure WLAN network
- identify and describe common troubleshooting techniques.

Content:

Course objectives will be accomplished by providing students with learning experiences in the following areas:

- wireless LAN devices and standards
- how wireless works
- physical and media access control standards
- planning, implementing and administration of wireless network
- wireless LAN security and vulnerabilities
- managing a wireless network
- network settings and troubleshooting
- administering personal, metropolitan and wide area networks.

General Education Outcomes:

Applied Education Outcomes:

1) Students will acquire entry-level skills specific to and appropriate for employment in their chosen field of study.

Students will be exposed to the basic concepts of WLAN management on a theoretical and practical application basis. The entry-level skills will be practiced through hands-on exercises such as, installing and securing a wireless network, managing a wireless network, and troubleshooting a wireless network.

2) Students will become aware of industry specific certification and develop skills sufficient to acquire the same.

The course and text are designed around the knowledge domains encompassed by the Certified Wireless Network Administrator (CWNA) industry certification. Each chapter and hands-on activity will be referenced to this certification. Additionally, students will be made aware of higher level security certifications available to them following the successful completion of this course.

Key Performance Indicators:

Student Learning Outcomes will be assessed by two or more of the following Key Performance Indicators:

- lab exercises
- quizzes
- tests
- exam or project.
- subsequent classes where students are expected to be familiar withwireless networking
- Certified Wireless Network Administrator (CWNA) exam will provide indicators to student success in this course.

Representative Text and/or Supplies:

- Mark Ciamp, *CWNA Guide to Wireless LANs*, current edition, Thompson.

Optimum Class Size: 16
Maximum Class Size: 16

Signatures:

I hereby submit this course syllabus:

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Michael P. Medley, MBA, Assistant Professor

I hereby find this course consistent with the goals and resources of the Information Technology Department:

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Michael P. Medley, MBA, Assistant Professor, Chair

I hereby find this course consistent with the goals and resources of the Career and Technical Education Division:

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Michael P. Medley, MBA, Assistant Professor, Dean

I have discussed the need for library resources related to this class with the person submitting the syllabus:

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Lynn Anderson, MLIS, Technical Services Librarian (Main Campus)

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Michelle Olsen, MLS, Campus Librarian (Richfield Campus)